

AMENDMENTS

In the Specification

Please replace the following paragraphs of the specification and the abstract.

Paragraph 4 on Page 3 with the following paragraph:

According to the invention, this object is solved by a thermal insulating material composed of ~~at least one~~ a first component with at least one first phase containing stoichiometrically 1 to 80 mol-% of M_2O_3 M_2O_3 , 0 to 80 mol-% MeO and a remainder of Al_2O_3 with incidental impurities, wherein M is selected from the elements lanthanum and neodymium or mixtures thereof and wherein Me is selected from zinc, alkaline earth metals, transition metals, and the rare earths or mixtures thereof, preferably selected from magnesium, zinc, cobalt, manganese, iron, nickel, chromium, europium, samarium or mixtures thereof.

Replace Paragraph 2 on Page 4 with the following paragraph:

In a preferred embodiment of the invention, the first component contains 1 to 80 mol-% M_2O_3 M_2O_3 and 0.5 to 80 mol-% MeO with a remainder of Al_2O_3 .

Replace Paragraph 7 on Page 4-5 with the following paragraph:

Particularly advantageous properties result when the first component comprises about 5 to 9 mol-% M_2O_3 , about 12 -17 mol-% MeO with a remainder of Al_2O_3 , whereby a composition with about 7.1 mol-% M_2O_3 , about 14.3 mol-% MeO and a remainder of Al_2O_3 represents an optimal composition.

Replace Paragraph 3 on Page 7 with the following paragraph:

To achieve a preferred crystallisation of the aluminate during the plasma spraying and to increase adhesion and thermal shock resistance, the ~~first component~~ material can additionally be ~~doped by~~ comprise a second component which preferably is substantially insoluble in the hexa-aluminate phase and preferably is added to the first component in an amount of about 0.001 to 20 wt.-%, in particular about 0.1 to 10 wt.-%, whereby the range of 0.1 to about 3 wt.-% is particularly preferred.

Replace Paragraph 4 on Page 11 with the following paragraph:

If the ~~first component is doped with the~~ material comprises a second component, this takes place according to a further embodiment of the invention in the liquid state, in which the second component is added in soluble form before the drying or precipitation takes place (as long as the sol-gel process is being used).

Replace Paragraph 5 on Page 14 with the following paragraph:

The thermal insulating material of the present invention consists of an oxidic cover layer, which in contrast to the zirconium oxide sinteres not in three dimensions, but preferably in two dimensions. The material consists mainly of aluminum oxide, where monolayers of lanthanum oxide or neodymium oxide and aluminum oxide are disposed in its crystal lattice at regular spacings spacing (see Fig. 1 and Fig. 2). An illustration of the crystallographic unit cell of the magnetoplumbite phase with reference to a barium ferrite is shown in Fig. 1.

Replace Paragraph 2 on Page 16 with the following paragraph:

The magnetoplumbite phases can be relatively easily substantiated by means of XRD (X-ray powder diffractometry), since the JCPDS cards (26-0873, see Table 1) for the $\text{LaMgAl}_{11}\text{O}_{19}$ phase and (33-0699, see Table 2) for the $\text{La}_{11}\text{O}_{18}$ $\text{LaAl}_{11}\text{O}_{18}$ phase are known and the characteristic interferences or the reflection signals, respectively, can be determined.

Replace Paragraph 3 on Page 16 with the following paragraph:

The magnetoplumbite phases are very easy to verify with X-ray techniques on the basis of the JCPDS cards, since very many reflections occur and they are very characteristic in their arrangement for the structure (see Fig. 7). In contrast to this, ZrO_2 ZrO_2 only shows a very simple diffraction pattern.

Amend the Abstract as follows:

~~The invention relates to a~~ A thermochemically stable oxidic thermal insulating material presenting phase stability, which can be used advantageously as a thermal insulating layer on parts subjected to high thermal stress, such as turbine blades or such like. The thermal insulating material can be processed by plasma spraying and consists preferably of a magnetoplumbite phase whose preferred composition is $\text{MMeAl}_{11}\text{O}_{19}$, where M is La or Nd and where Me is chosen from among zinc, the alkaline earth metals, transitional transition metals, and rare earths, preferably from magnesium, zinc, cobalt, manganese, iron, nickel and chromium.